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(71)Applicant : CANON INC

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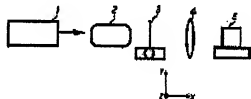
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(54) OPTICAL MACHINE AND MANUFACTURE OF ORIFICE PLATE USING THE MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent deterioration for deformation of a workpiece caused by thermal expansion or melting by changing a relative position between the workpiece and the position of a mask pattern image projected on the surface of the workpiece and thereby dividing the workpiece surface into multiple areas for divided machining.

SOLUTION: Using a mask 3, a workpiece 5 is first machined at the initial position. During the machining, the irradiation of the light is approximately one half compared with the machining of the entire width altogether, producing less rise in the temperature of the substrate 5. Further, the machining surface area is wide and easy to radiate heat. After the end of this machining, the mask 3 is moved in the horizontal direction from the stage for example by $1/8$ of the machining pitch for light irradiation. The resultant heat mainly passes through a projected part, reaching the groove bottom once and then diffusing; therefore, partial heat concentration can be avoided, as can a phenomenon in which a surface that requires precision becomes excessively high in temperature. Furthermore, the large surface area has an atmospherically cooling effect.



LEGAL STATUS

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